CalPERS

Health Benefit Plan Design Analysis

Prepared by: Robert G. Cosway, FSA, MAAA
Milliman, Inc.

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March 12, 2007

Ms. Sandra Felderstein
Chief, Office of Health Policy and Program Support
CalPERS
400 Q Street
Sacramento, CA. 95814

RE: HEALTH BENEFIT PLAN DESIGN ANALYSIS

Dear Sandra:

As requested, Milliman has performed an analysis of health benefit plan designs for CalPERS. The results of our analysis are contained in this report.

We appreciate your assistance on this project, and of your staff, Stacie Sormano and Jan Howard.

This report was prepared exclusively for CalPERS' internal use in analyzing potential health benefit program changes. We understand that this report will likely become public. We request that whenever CalPERS releases this report that CalPERS release it in its entirety. Milliman does not intend to benefit any third parties with this report. Before acting on this report, any third party should seek the advice of its own qualified experts on these issues.

We appreciate the opportunity to work with CalPERS on this important subject, and look forward to discussing this report with you.

Sincerely,

Robert G. Cosway, FSA, MAAA
Milliman, Inc

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Attachments

EXECUTIVE SUMMARY

CalPERS retained Milliman to conduct a thorough review of CalPERS current co-payment structure and recommend changes that meet the following objectives:

A. Retain Contracting Agencies and Minimize Risk Pool Fragmentation.

B. Ensure Competitiveness in Health Benefits Marketplace.

C. Encourage Members to Seek Care in the Most Appropriate and Cost-Effective Setting.

D. Reduce Overall Long-Term Costs.

E. Provide Incentives for Members to Make Healthy Lifestyle Choices.

F. Maintain Consistency with Applicable State and Federal laws.

We began by examining "typical" or median HMO and PPO benefits for large employers in California and the U.S. We also compiled a list of potential co-payment modifications that are common and/or innovative in the current California HMO or PPO marketplace for CalPERS staff to consider. Then, Milliman worked with CalPERS staff to evaluate these potential changes and identify those that met, on balance, the six CalPERS co-payment structure objectives listed above. Based on those evaluations, we have the following recommendations:

Recommended Changes to the CalPERS Basic **HMO** Plan

1. Introduce a Hospital Inpatient co-payment of **$100** per day with an annual maximum inpatient co-payment of **$300** per member.
   Change Outpatient Hospital Surgery/Ambulatory Surgery Center co-payment from $0 ($10 for Kaiser) to **$15**.

2. Change office visit co-payments as follows:
   Preventive Care office visits from $10 to **$0**.
   Other office visits from $10 to **$15**.

3. Change Pharmacy co-payments as follows.
   Retail Generic remains at $5.
   Retail Brand from $15 to **$20**.
   Retail Non-Formulary remains at $45.
   Mail Order Generic remains at $10.
   Mail Order Brand from $25 to **$40**.
   Mail Order Non-Formulary from $75 to **$90**.

4. Change Emergency Care co-payment from $50 to **$75** (waived if admitted).
   Change Urgent Care Visit co-payment to **$15** (currently $10, $20, or $25, depending on health plan).

5. Standardize Out-of-Pocket Maximum to **$1500** Individual, **$3000** Family, excluding pharmacy. Currently, Blue Shield has no out-of-pocket maximum, but the other two HMO plans have $1500/$3000.

Recommended Changes to the CalPERS Basic **PERS Choice** Plan

1. Change Pharmacy co-payments as follows (to remain consistent with HMO):
   Retail Generic remains at $5.
   Retail Brand from $15 to **$20**.
   Retail Non-Formulary remains at **$45**.
   Mail Order Generic remains at $10.
   Mail Order Brand from $25 to **$40**.
   Mail Order Non-Formulary from $75 to **$90**.

2. Change Emergency Care co-payment from $50 to **$75** (waived if admitted).
   No change to Urgent Care Visit co-payment ($20).

Board members have expressed concern that increased member co-payments may cause members to forgo necessary medical care. Based on our review of studies and literature pertaining to this issue, we believe that the magnitudes of these proposed co-payment changes will not cause members to avoid needed care.

Based on Milliman's actuarial experience in developing co-payment structures, all of the proposed co-payment changes, as packaged, will reduce premiums. The out-of-pocket maximum is the only exception; Milliman estimates that the associated premium increase will be immaterial. CalPERS' health plans will likely have varying premium impacts for each co-

payment change. Each plan's premium impact estimates will reflect its enrollees' baseline utilization, the behavioral impact of individual plan changes, and unit costs of affected covered services.

INTRODUCTION

The CalPERS health benefit program provides health benefits for approximately 1.2 million Californians. The following table summarizes the relevant breakdowns of this membership for purposes of this analysis.

CalPERS Covered Lives by Health Plan, November 2006

Health Plan	Basic	Medicare	ALL
Blue Shield	367,913	19,585	387,498
Kaiser	375,860	48,639	424,499
Western Health Advantage	19,695	371	20,066
PERS Choice	200,910	24,095	225,005
PERS Care	24,076	52,074	76,150
Association Plans	66,107	3,505	69,612
TOTAL	**1,054,561**	**148,269**	**1,202,830**

CalPERS wants to analyze whether its current Basic HMO and PPO co-payment structure is meeting its objectives. All references to the current structure in this report refer to the benefits as of January 1, 2007.

At CalPERS' request, we focused on health benefit plans for Basic members (active employees, retirees, and their dependents under age 65). We did not study the plans covering public safety officers.

The history of the CalPERS Program, and its current structure, mirrors the experience of many large employers in the United States. The current Program offers employees several alternative Plan types. The first Plan type, the PPO, offers a broad provider network, and an out-of-network benefit, but requires significant member cost-sharing payments. The second Plan type,

the HMO, features a limited provider network, a somewhat larger list of covered benefits, and lower member cost sharing.

In this report we use a variety of terms specific to health benefit designs. Please see Attachment 1 for definitions and background information on health benefit structures, categories of health care needs, and components of benefit design.

CALPERS CO-PAYMENT STRUCTURE OBJECTIVES

When defining a recommended co-payment structure, we must first define the objectives. CalPERS defined the following objectives for program design.

A. Retain Contracting Agencies and Minimize Risk Pool Fragmentation

CalPERS has a fundamental objective to retain contracting agencies and minimize risk pool fragmentation. The primary reason for this objective is that a larger membership allows CalPERS to spread the health insurance risk across more people, resulting in more stable premium rates. Secondary reasons are that a larger membership provides more bargaining power when negotiating with providers, and reduces administrative expenses per member. To attain this objective, CalPERS needs a competitive co-payment structure and premiums.

B. Ensure Competitiveness in Health Benefits Marketplace

All state employees receive their health benefits from the CalPERS plan. For these employees, CalPERS needs to provide the State of California, as an employer, with competitive health benefits to attract and retain employees, while providing attractive premiums.

Maintaining competitiveness is especially critical for contracting agencies. Contracting agencies have the option of enrolling with CalPERS, or purchasing health insurance on the open market. Thus, it is important that the co-payments and premiums for contracting agencies be competitive with the general insurance market.

To ensure CalPERS co-payment structure is competitive it needs to include preventive, acute and maintenance benefits that are consistent with and priced competitively with the majority of similar large purchasers.

C. Encourage Members to Seek Care in the Most Appropriate and Cost-Effective Setting

A health plan will see improvements in both the quality of outcomes and costs when members receive care in the most appropriate and cost-effective setting. This means receiving the level of care that is clinically appropriate, but not excessive. Examples include:

- Receiving the appropriate sub-acute care (skilled nursing facility, or home health) instead of unnecessary acute care.

- Receiving urgent but not emergency care in an urgent care facility and not a hospital emergency room.
- Undergoing surgeries in an outpatient or ambulatory setting when clinically appropriate.
- Undergoing complex procedures such as transplants at hospitals designated as Centers of Expertise.

D. Reduce Overall Long-Term Costs, While Ensuring Appropriate Care

For the State of California, and for contracting agencies, medical benefits for employees and retirees represent a large portion of the budget. While annual medical trends moderated somewhat in the late 1990s, they are currently running at approximately 8 to 12 percent. Ideally, a recommended co-payment structure would both reduce current cost levels, and reduce the rate of premium trend.

The impact of co-payment changes on short-term costs, over a one to three year period, is relatively easy to predict. By adopting a long-term view, CalPERS acknowledges the possibility that some co-payment changes could have unintended long-term consequences. For example, a plan change that reduces the number of office visits could cause members to forgo necessary services affecting their quality of life. In addition, members that forgo necessary services could require services that are more expensive in future years, increasing long-term costs. CalPERS would like to identify and mitigate any unintended consequences by focusing on long-term cost savings, rather than on short-term savings.

E. Provide Incentives for Members to Make Healthy Lifestyle Choices

The lifestyle choices of plan members affect their long-term health. For example, obesity, smoking, alcohol use, and exercise all have a direct impact on a member's health. A co-payment that would provide an incentive for members to lose weight, quit smoking, limit alcohol use, and exercise, for example, could improve the long-term health of CalPERS members. This in turn could reduce the long-term costs of the program.

F. Maintain Consistency with Applicable State and Federal Laws

Any proposed plan change must be consistent with state and federal laws covering CalPERS' health plans. In particular, the HMO plans offered by CalPERS, currently Blue Shield, Kaiser, and Western Health Advantage, must comply with the law and regulations governing plans regulated by the Department of Managed Health Care (DMHC).

CRITERIA FOR THE EVALUATION OF CO-PAYMENT OBJECTIVES

In this section, we summarize a list of required criteria in order for a particular co-payment change to meet CalPERS co-payment structure objectives.

A. Retain Contracting Agencies and Minimize Risk Pool Fragmentation.

B. Ensure Competitiveness in Health Benefits Marketplace.

These two objectives overlap. To meet these two objectives a proposed co-payment change must:

1. Maintain a competitive co-payment structure, including covered benefits and employee cost sharing. We defined a significant covered benefit or co-payment provision to be competitive if it is consistent with the median provisions offered to large employers in California. We also considered the median provisions offered by other state and federal employers.
2. Yield a reduction in current premium levels. We started with the assumption that current premium levels are generally competitive with those available to contracting agencies from other carriers. To justify a co-payment change, Milliman and CalPERS require a premium reduction. If a co-payment change met other objectives, however, we considered it for recommendation even if it produced little or no predictable premium reduction.

C. Encourage members to seek care in the most appropriate and cost-effective setting.

To meet the objective to encourage members to seek care in the most appropriate and cost-effective setting, a proposed co-payment change must:

1. Maintain or increase coverage of clinically appropriate alternative settings.
2. Maintain or increase the cost-sharing differential between settings that have a significant difference in cost.

D. Reduce Overall Long-Term Costs

To meet the objective to reduce overall long-term costs, a proposed co-payment change must:

1. Reduce CalPERS net health care costs for the coming year, relative to the projected cost without the change. "Net health care costs" refers to the portion of total health care costs paid by the CalPERS plan, i.e. net of member cost sharing.
2. Not cause members to forgo clinically necessary medical services that would worsen their health care status, thereby possibly increasing future year costs.
3. Produce cost savings that will persist beyond the first year. For example, the percentage impact of a fixed dollar co-payment will decrease over time, as the dollar amount becomes a smaller and smaller percentage of the total health cost.

Milliman used its Health Cost Guidelines to determine whether each co-payment change would result in premium savings. First developed in 1954, the Health Cost Guidelines have become a recognized industry benchmark. Most of the largest health insurers in the United States, including many in California, use the Health Cost Guidelines to estimate the premium impact of similar co-payment changes. Milliman can say with certainty that the co-payment changes recommended in this report will result in premium savings, but CalPERS will know the level of savings only after the completion of negotiations with the health plans.

E. Provide Incentives for Members to Make Healthy Lifestyle Choices

To meet the objective to provide incentives for members to make healthy lifestyle choices, a proposed co-payment change must provide a financial incentive for members to improve their health status.

F. Maintain Consistency with Applicable State and Federal laws

To meet this objective, a proposed co-payment change must not violate any applicable state and federal laws, including but not limited to:

- California Department of Insurance laws and regulations
- California Department of Managed Health Care laws and regulations
- ERISA

Milliman evaluated this objective based on our understanding of these requirements. We are not lawyers, thus we recommend that CalPERS attorneys confirm our evaluation before CalPERS makes any specific plan changes.

PLAN DESIGN SURVEY AND MEDIAN PLAN

Milliman collected data and other information to determine a reasonable set of typical co-payments that large employers offer to their employees. Whenever possible, we relied on survey data, from the 2006 California Employer Health Benefits (CEHB) Survey, or national data from the 2006 Kaiser Family Foundation (KFF) Survey of Employer Health Benefits. For several of the most significant co-payments, Attachments 2 and 3 summarize key results from the two surveys for HMO and PPO plans respectively.

Several important co-payment provisions are not in the California survey data. There is limited published survey information available about plan provisions other than office visit co-payments, prescription drug co-payments, and PPO deductible and coinsurance amounts. We identify these "non-survey" co-payment provisions below, including Milliman's estimates of the pertinent median values. To estimate these values, we performed an Internet search to obtain a limited sample of co-payment information for typical California large employers. These conclusions are also consistent with Milliman's experience with designing health plans for employers and carriers.

We also reviewed the 2007 HMO co-payments offered to Federal Employee Health Benefit Program (FEHBP) employees in California. Employees can choose from six carriers. One carrier provides two options; we used their High Option as it featured the lowest cost sharing.

Office visit co-payment

Attachment 2 shows the median office visit co-payment among large employers in California is $15. The median office visit co-payment for the six FEHBP plans is also $15, with only one plan less than $15.

Hospital admission co-payment

Attachment 2 shows the median inpatient hospital admission co-payment among large employers in California is $237. The median inpatient hospital co-payment for the six FEHBP plans is similar. The structure proposed for CalPERS in this report is $100 per day with a $300 maximum.

Outpatient Surgery/Ambulatory Surgical Center Co-payment

Attachment 2 shows the median Outpatient Surgery/Ambulatory Surgical Center Co-payment among large employers in the United States is $118. Of the six FEHBP plans, three charge a $50 co-payment and three charge $100 or higher.

Prescription Drugs (Retail)

Attachment 2 shows the median prescription drug co-payment among large employers in California is $10 generic/$20 brand/$39 Non-preferred. The median values for the six FEHBP plans are the same for generic and slightly higher for brand and non-preferred.

Emergency room co-payments

Milliman's internet search of emergency-room co-payments for large California plans in 2006 suggests a range from $50 to $100, or more. Of the six FEHBP plans, three charge a $50 co-payment and three charge a $100 co-payment, for an average of $75.

Urgent care co-payments

Milliman's internet search of urgent care co-payments for California plans in 2006 suggest a variety of structures, including urgent care co-payments:

- equal to the office visit co-payment.
- between the office visit co-payment and the emergency room co-payment, typically $30.
- equal to the emergency room co-payment.

It is difficult to estimate a true median, but we believe a $30 urgent care co-payment is roughly equal to the median amount. Of the six FEHBP plans, three charge an urgent care co-payment equal to the office visit co-payment, and three charge a higher amount.

Preventive care co-payments

Preventive care services include Periodic Health Exam, Periodic Maternity Care, Well Baby Visits, Allergy Testing and Treatment, Immunizations, Hearing Evaluation, and Pre/Postnatal care. Milliman's internet search of preventive care co-payments suggested that co-payments for these benefits usually match the primary office visit co-payments, although assigning these

co-payments to a zero value is gaining in popularity. Of the six FEHBP plans, three charge the same as the office visit co-payment, and three charge $0 for at least some preventive services.

Radiology and laboratory co-payments

Milliman's internet search of radiology and laboratory co-payments for California plans shows a range of zero to $25. The most common appears to be $0, so this represents the median value. Of the six FEHBP plans, four do not charge a co-payment and two charge a co-payment if the service is not part of an office visit.

Other outpatient care co-payments

This category includes services such as Chiropractic, Mental Health, Physical Therapy, Occupational Therapy, Speech Therapy, and Chemical Dependency. Survey data is unavailable. Milliman health benefits consultants find that the co-payments for these benefits typically match the office visit co-payment, which is the current CalPERS structure. We define this as the median approach, so that if CalPERS increases office visit co-payments, co-payments for these services should also increase.

RECOMMENDED CO-PAYMENT CHANGES: BASIC HMO

Attachment 4 contains a summary of the current CalPERS Basic HMO provisions. We recommend the following changes to the current Basic HMO. We summarize our evaluation of how each change meets CalPERS objectives in a later section of this report.

1. Introduce hospital inpatient co-payment of **$100** per day, with an annual maximum hospital inpatient co-payment total of **$300** per member. Treat outpatient/ambulatory surgery as an office visit for purposes of co-payments. Outpatient/ambulatory surgery co-payment will increase from $0 to **$15**, except for Kaiser which will increase from $10 to **$15**.

2. Change office visit co-payments as follows:
   Preventive Care from $10 to **zero**.
   Other office visits from $10 to **$15**.

   The category "office visits" includes Physician, Chiropractic, Mental Health, and Physical/Occupational/Speech Therapy. "Preventive" office visits include Periodic Health Exams, Periodic OB/GYN, Well Baby, Allergy Testing and Treatment, Immunizations, and Hearing Evaluations.

3. Change Pharmacy co-payments as follows:
   Retail Generic remains at $5
   Retail Brand from $15 to **$20**
   Retail Non-Formulary remains at $45 [1]
   Mail Order Generic remains at $10
   Mail Order Brand from $25 to **$40**
   Mail Order Non-Formulary from $75 to **$90** [1]

4. Raise Emergency Care co-payment from $50 to **$75** (waived if admitted).
   Urgent Care Visits to **$15** (currently $10, $20, or $25, depending on health plan).

   Notes: Urgent Care co-payment becomes equal to the office visit co-payment.

[1] Non-formulary co-payments are reduced if physician requests waiver because member has unsuccessfully tried a formulary brand drug and needs a non-formulary drug.

5. Standardize Out-of-Pocket Maximum to $1,500 Individual, $3,000 Family, excluding pharmacy (currently Blue Shield has no out-of-pocket maximum).

RECOMMENDED CO-PAYMENT CHANGES: BASIC PPO

Attachment 4 contains a summary of the current Basic PPO provisions. We conclude that the PERS Choice design, which covers the majority of PPO members, is generally consistent with CalPERS co-payment structure objectives. While PERSCare is a more expensive option than PERS Choice, we believe CalPERS can continue with this richer benefit design to provide members with two PPO options. PERS Care is a more expensive option than PERS Choice, with lower cost sharing.

We recommend the following changes to the current PERS Choice basic plan. We summarize our evaluation of how each change meets CalPERS objectives in a following section.

1. Change Pharmacy co-payments as follows:
   Retail Generic remains at $5
   Retail Brand from $15 to **$20**
   Retail Non-Formulary remains at $45 [1]
   Mail Order Generic remains at $10
   Mail Order Brand from $25 to **$40**
   Mail Order Non-Formulary from $75 to **$90**[1]

2. Raise Emergency Care co-payment from $50 to **$75**, plus applicable coinsurance (fixed co-payment portion waived if admitted).
   Retain Urgent Care co-payment at $20 (No change)

   Note: Urgent Care co-payment continues to be equal to office visit co-payment.

[1] Non-formulary co-payments are reduced if physician requests waiver because member has unsuccessfully tried a formulary brand drug and needs a non-formulary drug.

EVALUATION OF RECOMMENDED CO-PAYMENT CHANGES - BASIC HMO

Below we examine each recommended Basic HMO co-payment change using the numbered criteria for evaluation described in the section "Criteria for the Evaluation of CalPERS Co-Payment Structure Objectives." For more information regarding any research or studies cited below, please see Attachment 5, Discussion of Literature Pertaining to Co-Payment Structure Options Considered.

1) Change Hospital co-payment as follows:

- Introduce Hospital Inpatient co-payment of **$100** per day, with an Annual Maximum Hospital Inpatient co-payment total of **$300** per member;
- Introduce Outpatient/Ambulatory Surgery co-payment of **$15** per case**.**

A. Retain Contracting Agencies and Minimize Risk Pool Fragmentation;

B. Ensure Competitiveness in Health Benefits Marketplace

1. This co-payment change is competitive and consistent with the current market. For hospital admissions, the CEHB survey found that about 50 percent of HMO covered workers in large firms have a separate co-payment on hospital inpatient services. The average inpatient co-payment amount, for those with this feature, was $250 per admission in 2006. Nationwide figures (from KFF survey) are similar, 45 percent and $233. The proposed co-payment structure produces a co-payment of $100 for members with a one-day stay, $200 for members with a two-day stay, and $300 for members with a three-day stay or longer. For a recent 12-month period, 29 percent of Basic HMO hospital admissions were for one day, 25 percent were for two days, and 46 percent were for three or more days. Thus, the average co-payment per admission for the proposed structure is $188, well below the average amount in the 2006 California marketplace. The proposed per day cost sharing structure is becoming more common. Three of the six FEHBP HMOs in California use this structure, two of which have the same dollar amounts, and one has higher amounts.

   For outpatient/ambulatory surgery, among U.S. HMO covered workers in 2006, 42 percent had a co-payment for this benefit, with a median outpatient/ambulatory surgery co-payment amount of $118. We do not have survey data for California on this benefit. Milliman has observed that while some California carriers still charge no co-payment for outpatient/ambulatory surgery,

many charge an amount much higher than the office visit co-payment. Of the six FEHBP HMOs in California, three charge a $50 co-payment and three charge $100 or higher.

2. Premiums will decrease, relative to current levels, as the current HMO benefits have no co-payment for inpatient admissions, or for outpatient surgery. This reduction in premium, relative to current levels, would increase the competitiveness of CalPERS premiums.

C. Encourage Members to Seek Care in the Most Appropriate and Cost-Effective Setting

When combined with an outpatient/ambulatory surgery co-payment equivalent to an office visit, the member has a financial incentive to request surgery in a lower cost outpatient/ambulatory setting when clinically appropriate.

D. Reduce Overall Long-Term Costs

1. The hospital co-payment changes will decrease CalPERS HMO premiums. This decrease is due solely to the increased portion of the hospital costs paid by the member. Milliman's Health Care Guidelines suggest this co-payment change will have no impact on underlying hospital utilization.

2. We are not aware of any published study in a peer-reviewed journal that concludes that an inpatient co-payment of this magnitude will cause a patient to forgo necessary care or adversely affect a patient's health care status. Thus, we do not believe decreases in short-term premium will be offset by any future increase in health care costs due to delay of care. See Attachment 5 for a discussion of the literature.

3. This change causes lower CalPERS costs because the patient has a higher co-payment. This reduction will continue in future years, as long as the co-payment remains in place. The percentage impact will decline slightly over time as the value of the fixed dollar co-payment declines relative to the ongoing increases in health care costs.

E. Provide Incentives for Members to Make Healthy Lifestyle Choices

No anticipated material effect on a member's lifestyle choices.

F. Maintain Consistency with Applicable State and Federal Laws

No expected regulatory issues, but Milliman recommends that CalPERS legal staff confirm consistency with state and federal laws.

2) Change Outpatient co-payment as follows:

- *Preventive Care Visits from $10 to zero*
- *Other office visits from $10 to $15*

A. Retain Contracting Agencies and Minimize Risk Pool Fragmentation;

B. Ensure Competitiveness in Health Benefits Marketplace

1. These co-payment changes are competitive. The proposed office visit co-payment change to $15 is consistent with the current marketplace. The CEHB survey found that 62 percent of California HMO-covered workers had an office visit co-payment of $15 or more in 2006, with the median value of $15. Nationwide, the KFF survey found that 75 percent had co-payments of $15 or more in 2006. Both surveys show average office visit co-payments steadily increasing over time. The median office visit co-payment for the six California FEHBP HMOs is also $15, with only one plan less than $15.

   This approach (zero co-payments for preventive) is increasing in popularity among large group health plans. Of the six California FEHBP HMOs, three charge the same as the office visit co-payment, and three charge $0 for at least some preventive services

2. Premiums will decrease, relative to current levels, as this change increases that overall member cost sharing for physician services.

C. Encourage Members to Seek Care in the Most Appropriate and Cost-Effective Setting

The reduction in preventive care co-payments will further motivate patients to seek appropriate and cost-effective care.

D. Reduce Overall Long-Term Costs

1. This co-payment change will decrease CalPERS HMO premiums. Milliman estimates that the premium decrease is due to both the increased portion of the office visit and outpatient/ambulatory surgery cost paid by the member, and the anticipated reduction in office visit utilization caused by the higher co-payment amount. Large employers have been steadily increasing office visit co-payments, and we expect this trend to continue. We have assumed that lowering the preventive care co-payment will slightly offset the savings of increasing the co-payment for other services. There are studies in the literature that suggest lowering or removing preventive office visit co-payments may reduce other health care costs, but the results are rarely quantified.

2. We are not aware of any study that concludes that a change in office visit co-payments of this magnitude will cause a patient to forgo necessary care or adversely affect their health care status. See Attachment 5 for a discussion of the literature.

3. This reduction will continue in future years, as long as the increased co-payments remain in place. The percentage impact will decline slightly as the value of the fixed dollar co-payment declines relative to the ongoing increases in health care costs.

E. Provide Incentives for Members to Make Healthy Lifestyle Choices

No anticipated material effect on a member's lifestyle choices.

F. Maintain Consistency with Applicable State and Federal Laws

No expected regulatory issues, but Milliman recommends that CalPERS legal staff confirm consistency with state and federal laws.

3) Change Pharmacy co-payments as follows:

- *Retail Generic $5 (no change).*
- *Retail Brand from $15 to $20.*
- *Retail Non-Formulary $45 (no change).*
- *Mail Order Generic $10 (no change)*
- *Mail Order Brand from $25 to $40.*
- *Mail Order Non-Formulary from $75 to $90.*

A. Minimize Loss of Contracting Agencies and Risk Pool Fragmentation

B. Ensure Competitiveness in Health Benefits Marketplace

1. The proposed pharmacy co-payment changes are consistent with the marketplace. CalPERS has below-market pharmacy co-payments. The CEHB survey shows that in 2006 the median generic/preferred/non-preferred co-payments were $10/$20/$39. The KFF survey shows that nationally the figures are similar ($11/$24 for generic/preferred). Both these amounts have been steadily rising in recent years. The median values for the six California FEHBP HMOs are the same for generic and slightly higher for brand and non-preferred.

2. Maintaining the generic co-payment at current low levels ($5 relative to the median of $10) will be attractive to members and increase the incentive to use generic drugs versus clinically equivalent brand drugs.

   The resulting reduction in premium, relative to current levels, from these changes would increase the competitiveness of CalPERS premiums.

C. Encourage Members to Seek Care in the Most Appropriate and Cost-Effective Setting

Increasing the difference between generic and retail drug co-payments will further motivate CalPERS members to use generic drugs versus clinically equivalent brand drugs.

D. Reduce Overall Long-Term Costs

1. This co-payment change will decrease CalPERS HMO premiums. Milliman estimates that the premium decrease is due to the increased portion of pharmacy costs paid by the member, the anticipated reduction in utilization caused by the higher co-payment amount, and expected changes in generic drug use. Large employers have been steadily increasing pharmacy co-payments, and we expect this trend to continue.

2. We are not aware of any study that concludes that a change in pharmacy co-payment of this magnitude will adversely affect patients' health care status who are enrolled in a basic plan. Thus, we do not believe short-term premium decreases are offset by any future increase in health care costs due to delay of care. See Attachment 5 for a discussion of the literature.

3. This reduction will continue in future years, as long as the increased co-payments remain in place. The percentage impact will decline slightly as the value of the fixed dollar co-payment declines relative to the ongoing increases in health care costs.

E. Provide Incentives for Members to Make Healthy Lifestyle Choices

No anticipated material effect on a member's lifestyle choices.

F. Maintain Consistency with Applicable State and Federal Laws

No expected regulatory issues, but Milliman recommends that CalPERS legal staff confirm consistency with state and federal laws.

4) Raise Emergency Care co-payment from $50 to $75 (waived if admitted). Urgent Care Visits to $15 (currently $10, $20, or $25, depending on health plan).

A. Retain Contracting Agencies and Minimize Risk Pool Fragmentation;

B. Ensure Competitiveness in Health Benefits Marketplace

1. The new emergency care co-payments are consistent with the marketplace. Although survey data is not available for this benefit, Milliman's research of benefit plans for California plans shows that emergency care co-payments most commonly range between $50 and $100. Of the six California FEHBP HMOs, three charge a $50 co-payment and three charge a $100 co-payment, for an average of $75.

2. Urgent care co-payments range from the level of the office visit co-payment, to amounts as high as $50. Of the six FEHBP plans, three charge an urgent care co-payment equal to the office visit co-payment, and three charge a higher amount.

   The resulting reduction in premium would increase the competitiveness of CalPERS premiums.

C. Encourage Members to Seek Care in the Most Appropriate and Cost-Effective Setting

The Milliman Health Cost Guidelines predict a reduction in utilization of emergency care due to the $25 increase in co-payment. Since the emergency co-payment is waived if the

patient is hospitalized, we do not expect this co-payment increase to cause members to avoid necessary care. We do expect this change will cause members to use the emergency room more prudently and less often for non-emergency care.

This change will also increase the difference between urgent care and emergency care co-payments. Keeping the urgent care co-payment low, while raising emergency care co-payments, will provide further motivation for patients to choose urgent care instead of emergency care when clinically appropriate.

D. Reduce Overall Long-Term Costs

1. This co-payment change will decrease CalPERS HMO premiums. Milliman estimates that the premium decrease is due to both the increased portion of the emergency care paid by the member, and the anticipated reduction in emergency care utilization caused by the higher co-payment amount. The decrease, for two of the HMO plans, of the urgent care co-payment to $15 causes an increase in costs, but it is offset by the change in emergency care costs. The increase in emergency care co-payment, combined with the decrease in urgent care co-payment, could cause a further reduction in costs due to more emergency room visits shifting to urgent care facilities.

   We are not aware of any study that concludes that a change in the emergency care co-payment of this magnitude will adversely affect patients' health care status. Thus, we do not believe decreases in short-term premiums are offset by any future increase in health care costs due to delay of care. We also note the following conclusions from two recent studies (see Attachment 5):

2. "When faced with an ED co-payment, patients in the health system most commonly shifted toward seeking care from other available alternatives, and rarely avoid medical care altogether."

3. "Relatively modest levels of patient cost-sharing for ED care decreased ED visit rates without increasing the rate of unfavorable clinical events."

   This change causes lower costs because the patient has an overall higher co-payment, and lower related emergency room utilization. This reduction will continue in future years, as long as the increased co-payments remain in place.

E. Provide Incentives for Members to Make Healthy Lifestyle Choices

No anticipated material effect on a member's lifestyle choices.

F. Maintain Consistency with Applicable State and Federal Laws

No expected regulatory issues, but Milliman recommends that CalPERS legal staff confirm consistency with state and federal laws.

5) Standardize Out-of-Pocket Maximum to $1500 Individual, $3000 Two-Party Family, excluding pharmacy (currently Blue Shield has no out-of-pocket maximum).

A. Retain Contracting Agencies and Minimize Risk Pool Fragmentation;

B. Ensure Competitiveness in Health Benefits Marketplace

1. The out-of-pocket limits of $1500/$3000 are consistent with the marketplace. The 2006 CEHB survey showed that the levels of $2000-$2500 Single, and $4000-$5000 Family, are close to the "midpoint" HMO level in 2006. The CEHB report found that 80 percent of single workers with HMO coverage had an out-of-pocket limit of $1500 or more. For family workers, 84 percent had an out-of-pocket limit of $3000 or more.

2. This change will have no material impact on HMO premiums, and will not harm the competitiveness of CalPERS premiums.

C. Encourage Members to Seek Care in the Most Appropriate and Cost-Effective Setting

For patients that reach the out-of-pocket maximum, they would no longer experience co-payment differentials between clinically appropriate settings (e.g., emergency room versus urgent care).

D. Reduce Overall Long-Term Costs

1. We estimate this co-payment change will have an immaterial impact on CalPERS HMO premiums.

2. This change will not cause patients to forgo services.

E. Provide Incentives for Members to Make Healthy Lifestyle Choices

No anticipated material effect on a member's lifestyle choices.

F. Maintain Consistency with Applicable State and Federal Laws

No expected regulatory issues, but Milliman recommends that CalPERS legal staff confirm consistency with state and federal laws.

EVALUATION OF RECOMMENDED CO-PAYMENT CHANGES - BASIC PPO

To ensure a difference in CalPERS PPO plans, we recommend maintaining the current co-payment structure for the PERSCare plan. The remainder of this section examines each recommended Basic PERS Choice co-payment change, using the numbered criteria for evaluation described in the section "Criteria for the Evaluation of CalPERS Co-Payment Structure Objectives." Because each proposed PERS Choice change is identical to a proposed HMO change, we do not repeat all of the evaluation here.

1. Change Pharmacy co-payments as follows:

    a. Retail Generic $5 (no change).
    b. Retail Brand from $15 to **$20.**
    c. Retail Non-Formulary $45 (no change).
    d. Mail Order Generic $10 (no change)
    e. Mail Order Brand from $25 to **$40.**
    f. Mail Order Non-Formulary from $75 to **$90.**

    The evaluation of this PERS Choice change is identical to the same proposed HMO change, discussed in the previous section. Large employers often have similar prescription drug provisions for HMO and PPO plans. Attachment 3 shows that in 2006, the median generic/preferred/non-preferred co-payments for large employer PPO plans in California were $10/$20/$40. In the evaluation of the same HMO change, we noted that the median values for HMO plans were $10/$20/$39.

2. Raise Emergency Care co-payment from $50 to **$75**, plus applicable coinsurance (fixed co-payment portion waived if admitted). Retain Urgent Care co-payment at $20.

    The evaluation of this PERS Choice change is identical to the same proposed HMO change, discussed in the previous section.

This section provides an overview of the structure and definition of terms that we use in analyzing co-payment structure options for CalPERS. Following are:

- Definitions of the health benefit structure,
- Categories of health care needs, and
- Components of benefit design.

In this report we use the term Health Benefit Program (Program) to refer to the overall CalPERS health benefit structure. Within the Program, members can select one of several health insurance benefit plans, such as the Kaiser HMO and the PERS Choice PPO. We use the term "Plan" to refer to these individual plans.

Health care needs fall into the following categories:

- Catastrophic – treatment of unexpected severe illnesses or injury.
- Complex chronic – treatment of serious long long-term conditions, such as diabetes heart failure arthritis etc.
- End-of-life – home or facility-based hospice and comfort measures for terminally ill patients.
- Episodic – treatment for common short-term problems.
- Maintenance – treatment of chronic conditions (asthma hide what pressure, diabetes, etc).
- Maternity – pre- and postnatal care.
- Mental Health – treatment of mental health and substance abuse disorders.
- Preventive Services
- Quality of Life
- Restorative

The extent to which a plan covers services in the above categories depends on the relative priority placed on each type of health care need.

A benefit design for a single Plan includes the following components:

1. **Covered Benefits.** The Plan's Evidence of Coverage lists the medical services that are either included or explicitly excluded. An overriding requirement is that all services be medically necessary. Certain types of providers or facilities must provide coverage for some services. Coverage for some other services must satisfy certain plan requirements, such as prior plan approval.

The list of covered services is usually similar for HMO and PPO plans. HMO plans sometimes cover a broader list of preventive services. On the other hand, HMO plans often have stricter requirements concerning prior plan approval and related medical management provisions.

The list of covered services for prescription drug plans is often a long list defined broadly as any physician-prescribed, FDA-approved drug. Alternatively, plans can define an explicit list of covered drugs, called a formulary, and only cover drugs on that list. Prescription drug plans can also require prior plan approval for specific drugs, or require that the patient try other drugs before approving a specific drug.

2. **Benefit Limitations.** The Plan's Evidence of Coverage sometimes limits the number of specific services covered in a period. For example, some plans limit the number of physical therapy visits to 20 per year.

   The benefit limitations are usually similar for HMO and PPO plans when offered by the same carrier.

3. **Cost Sharing.** Given that a medical service is covered, a plan's cost sharing provisions determine how much the member pays for the service.

   The cost sharing provisions of HMO and PPO plan are fundamentally different. In an HMO plan, the cost sharing for a service depends only the nature of the service itself. The plan document contains a schedule of dollar co-payments for specific services. For example, CalPERS basic HMO members pay a $10 co-payment for a physician visit, and the plan pays the remainder of the cost.

   In a PPO plan, the cost sharing for a service depends on the member's cumulative cost of services so far during the year. For example, in the PERSCare plan, for services from network providers:

   - the member pays the first $500 of services each year.
   - the member pays 20 percent of the services from $500 to $15,500.
   - the member pays 0 percent of the services over $15,500.

   The CalPERS PPOs include some HMO-type provisions. A $20 co-payment replaces the 20 percent payment for physician services.

Cost sharing for the CalPERS prescription drug benefit are co-payments at a fixed dollar amount that depend on the type of drug (generic, brand, or non-formulary) and on whether the member obtains the drug from a retail pharmacy or through mail order. PPO type cost sharing (deductibles and percentage coinsurance) are possible but not common.

Covered Providers. Most plans define a provider network, a list of providers (physicians and hospitals) from which the member can obtain covered services.

In HMO plans, members that receive services from non-network providers must pay the full cost themselves; the plan pays nothing. In PPO plans, the plan will pay something toward non-network provider costs, but the members cost sharing is usually significantly higher than for network services. Exceptions under both plans include emergency care and situations when the plan approves a referral to a non-network provider.

In prescription drug plans, the plan defines a list of retail pharmacies where the member can obtain their prescribed drugs.

Attachment 2
HMO Plan Designs Among California Employers With 100 or more Employees That Offer HMO Coverage

	2006 California Employer Health Benefits Survey (1)					2006 U.S. Survey (2)	
	% Employer With This Feature	Average for Those with This Feature	Median for Those with This Feature	25th Percentile for Those with This Feature	75th Percentile for Those with This Feature	Average for Those with This Feature	Average or Median
Co-payment Amount for an Office Visit (HMO)	96.0%	$15	$15	$10	$20	95%	$15
Co-payment Amount for an Hospital Admission (HMO)	50.0%	$261	$250	$100	$250	47%	$233
Co-payment Amount for Outpatient/Ambulatory Surgery						42%	$118
Maximum Out of Pocket Liability for One Year - Single (HMO)	70.1%	$1,602	$1,500	$1,000	$1,500	60%	$1,500
Generic Drug Copay Amount (HMO)	93.9%	$10	$10	$10	$10	98%	$11
Preferred Drugs Copay Amount (HMO)	84.9%	$21	$20	$19	$25	98%	$24
Non-Preferred Drugs Copay Amount (HMO)	44.6%	$37	$39	$33	$40	74%	$38

(1) Milliman analysis of employers with 100 or more employees, based on source data
(2) 2006 Kasier Family Foundation Survey of Employer Health Benefits; large group data (>200 EE) is used whenever noted in survey

Attachment 3
PPO Plan Designs Among California Employers With 100 or more Employees That Offer PPO Coverage

	2006 California Employer Health Benefits Survey (1)					2006 U.S. Survey (2)	
	% Employers With This Feature	Average for Those with This Feature	Median for Those with This Feature	25th Percentile for Those with This Feature	75th Percentile for Those with This Feature	% Employers With This Feature	Average or Median
Single PPO Plan Deductible	82.6%	$396	$250	$250	$500	69%	$375
Family PPO Plan Deductible	80.8%	$970	$750	$500	$1,000	70%	$838
Co-payment Amount for an Office Visit (PPO)	80.1%	$18	$18	$15	$20	79%	$20
Co-payment Amount for an Hospital Admission (PPO)	30.0%	$228	$200	$100	$250	22%	$233
General PPO Coinsurance Rate; in network						100%	20%
General PPO Coinsurance Rate, out of network						89%	35%
Maximum Out of Pocket Liability for One Year - Single (PPO)	84.3%	$2,021	$2,000	$1,200	$2,500	85%	$1,500
Generic Drug Co-payment Amount (PPO)	92.0%	$10	$10	$10	$10	98%	$11
Preferred Drugs Co-payment Amount (PPO)	88.2%	$22	$20	$20	$25	98%	$24
Non-Preferred Drugs Co-payment Amount (PPO)	63.8%	$38	$40	$35	$40	74%	$38

(1) Milliman analysis of employers with 100 or more employees, based on source data
(2) 2006 Kaiser Family Foundation Survey of Employer Health Benefits; large group data (>200 EE) is used whenever noted in survey

Attachment 4
2007 CalPERS Benefits for Basic Members

	Blue Shield HMO/EPO		Kaiser HMO		Western Health HMO		PERS Choice		PERSCare	
Health Care Benefit	Co-payment/ Coinsurance	Limits	Co-payment/ Coinsurance	Limits	Co-payment/ Coinsurance	Limits	Co-payment/ Coinsurance	Limits	Co-payment/ Coinsurance	Limits
Plan Deductible	none		none		none		$500 / $1000	(Ind/Fam)	$500 / $1000	(Ind/Fam)
Out of Pocket Maximum	none		$1500 / $3000	(Ind/Fam)	$1500 / $3000	(Ind/Fam)	$3000 / $6000	PPO only	$2000 / $4000	PPO only
Inpatient Hospital	$0		$0		$0		20%/40%	(in/out)	$250 + 10%/40%	per admit
Physician Care										
Office Visit	$10		$10		$10		$20/40%	(in/out)	$20/40%	(in/out)
Specialist	$10	$30 self-refer	$10		$10		$20/40%	(in/out)	$20/40%	(in/out)
Periodic Health Exam	$10		$10		$10		zero/40%	(in/out)	zero/40%	(in/out)
Periodic OB	$10		$10		$10		zero/40%	(in/out)	zero/40%	(in/out)
Well Baby	$10		$10		$10		zero/40%	(in/out)	zero/40%	(in/out)
Allergy Testing/Treatment	$10		$10/$5		$10		zero/40%	(in/out)	zero/40%	(in/out)
Immunizations	$10	per immun.	$0		$10	per immun.	zero/40%	(in/out)	zero/40%	(in/out)
Eye Refraction	$10	1/yr for 18+	$10		$10	1/yr for 18+	Not covered		Not covered	
Hearing Evaluation	$10		$10		$0		20%/40%	(in/out)	10%/40%	(in/out)
Hearing Aid	>$1000	per 36 months	>$1000	per 36 months	>$1000	per 36 months	20%/40%	>$1K; per 36 mos	10%/40%	>$1K; per 36 mos
Home Visit	$10		$0		$0		$20/40%		$20/40%	
Chiropractic	Not Covered		$10	20 visits / yr	$10	20 visits / yr	20%/40%	15 visits / yr	10%/40%	20 visits / yr

Attachment 4
2007 CalPERS Benefits for Basic Members

	Blue Shield HMO/EPO		Kaiser HMO		Western Health HMO		PERS Choice		PERSCare	
Prescription Drugs										
Separate Rx Deductible	none		none		none		none		none	
Generic	$5	30 day supply	$5	100 day supply	$5	30 day supply	$5	30 day supply	$5	34 day supply
Brand	$15	30 day supply	$15	100 day supply	$15	30 day supply	$15	30 day supply	$15	34 day supply
Non-formulary	$45/$30 (2)	30 day supply	not covered (1)		$45/$30 (2)	30 day supply	$45/$30 (2)	30 day supply	$45/$30 (2)	34 day supply
Mail Order Generic	$10	90 day supply	$5	100 day supply	$10	90 day supply	$10	90 day supply	$10	90 day supply
Mail Order Brand	$25	90 day supply	$15	100 day supply	$25	90 day supply	$25	90 day supply	$25	90 day supply
Mail Order Non-form.	$75/$45	90 day supply	not covered		$75/$45	90 day supply	$75/$45	90 day supply	$75/$45	90 day supply
Radiology	$0		$0		$0		20%/40%	(in/out)	10%/40%	(in/out)
Laboratory	$0		$0		$0		20%/40%	(in/out)	10%/40%	(in/out)
Emergency Care	$50		$50		$50		$50 + 20%/20%	per visit	$50 + 10%/10%	per visit
Urgent Care	$25		$10		$20		$20/40%	(in/out)	$20/40%	(in/out)
Ambulance	$0		$0		$0		20%/20%	(in/out)	20%/20%	(in/out)
Outpatient/Ambulatory Surgery	$0		$10		$0		20%/40%	(in/out)	10%/40%	(in/out)
Maternity Care										
Pre/Postnatal Office	$10		$10		$10		20%/40%	(in/out)	10%/40%	(in/out)
Inpatient services	$0		$0		$0		20%/40%	(in/out)	$250 + 10%/40%	per admit
Delivery	$0		$0		$0		20%/40%	(in/out)	$250 +	per admit

Attachment 4
2007 CalPERS Benefits for Basic Members

	Blue Shield HMO/EPO		Kaiser HMO		Western Health HMO		PERS Choice		PERSCare	
									10%/40%	
(1) Generic or brand co-payment applies if physician determines a non-formulary drug is medically necessary.										
(2) $30 co-payment applies if non-formulary drug is determined by plan to be medically necessary.										
Family Planning										
Infert. Testing/Treatment	50%		50%		50%		Not Covered		Not Covered	
Infertility drugs	50%		50%	100 day supply	same as Rx		Not Covered		Not Covered	
Contraceptive device	$5		$10		$10		20%/40%	(in/out)	10%/40%	(in/out)
Contraceptive visit	$10		$10		$10		20%/40%	(in/out)	10%/40%	(in/out)
Sterilization (Inpatient)	$0		$0		$10		20%/40%	(in/out)	10%/40%	(in/out)
Mental Health										
Inpatient	$0		$0	30 days / yr	$0	30 days / yr	20%/40%	20 days / yr	$250 + 10%/40%	30 days / yr
OP; severe mental illness	$10	child or adult	$10	child or adult	$10	child or adult	20%/40%	child or adult	10%/40%	child or adult
OP; serious emotional	$10	child only	$10	child only	$10	child only	20%/40%	child only	10%/40%	child only
OP other	$20	20 visits / yr	$10	20 visits / yr	$20	20 visits / yr	20%/40%	24 visits / yr	10%/40%	30 visits / yr
Other Benefits										
DME	$0		$0		$0		20%/40%	$3000 max / yr	10%/40%	(in/out)
Home Health	$0		$0		$0		20%/40%	$6000 max / yr	10%/40%	100 visits / yr
Physical Therapy	$10	$0 if inpatient	$10	$0 if inpatient	$10	$0 if inpatient	20%/40%	PT& OT $3500/yr	10%/40%	(in/out)
Occupational Therapy	$10	$0 if inpatient	$10	$0 if inpatient	$10	$0 if inpatient	20%/20%	PT& OT $3500/yr	20%/20%	(in/out)
Speech Therapy	$10	$0 if inpatient	$10	$0 if inpatient	$10	$0 if inpatient	20%/20%	$5000 life	10%/40%	$5000 life
Chem. Depend. IP	$0		$0		$0		20%/40%	20 days ($12K life)	$250 + 10%/40%	30 days ($12K life)
Chem. Depend. OP	$10	20 visits / yr	$10		$10	20 visits / yr	20%/40%	24 vis. ($12K life)	10%/40%	30 vis. ($12K life)
SNF	$0	100 days / yr	$0	100 days / yr	$0	100 days / yr	20%-30% / 40%	100 days / yr	10%-20% / 40%	180 days / yr
Hospice	$0		$0		$0		20%/20%	$10K max	10%/10%	$10K max

	Blue Shield HMO/EPO	Kaiser HMO	Western Health HMO	PERS Choice	PERSCare

Milliman conducted a literature search to identify research papers and other published literature that provide quantitative analyses pertinent to the co-payment options that CalPERS is considering. Albert Lowey-Ball, a consulting health economist to Milliman on this project, assisted with the search and interpretation. In this section, we summarize our interpretation of the literature that applies to specific recommended changes in benefit design. We also refer to selected specific articles that are relevant. In some cases, we have presented a very brief summary of the authors' conclusions, including pertinent statements from the article's abstract or summary. We have not attempted to audit the validity of these studies and the associated conclusions. For a more complete understanding of these studies, we encourage the reader to read the entire study.

Although we cite selected articles in this section, we based our conclusions on the literature as a whole. We looked at literature on the following recommended design changes:

1. Raise Office Visit Co-payments.
2. Waive Co-payments on Office Visits for Preventive Care.
3. Raise Pharmacy Co-payments.
4. Raise Emergency Care Co-payments.
5. Implement Hospital Inpatient Co-payment/Deductible.

* * *

1. Raise Office Visit Co-payments.

The RAND Health Insurance Experiment (HIE) showed in 1987 that increased patient cost shares, for office visits and other benefit categories, led to lower utilization of those categories. The RAND results are consistent with the Milliman Health Cost Guidelines, which reflects the experience of insurance carriers.

Since the RAND HIE, many research studies have attempted to examine the relationship between increased office visit cost shares and the change in health care costs for office visits as well as other benefit categories. Recent research clearly shows that increasing office visit (and other outpatient) cost shares reduces office visit (and other outpatient) utilization. The conclusions of the research are nearly unanimous; raising cost shares reduces utilization, for outpatient services.

A major concern of health care insurers, providers, administrators, and patients, is that increasing cost shares will lead to reduced utilization of necessary care resulting in reduced

quality of life, and higher long-run costs. This issue encompasses all outpatient categories, but here we will focus on office visits (see separate discussions for Pharmacy and other categories).

A 2006 article on the RAND HIE[3] concluded, "cost sharing did not significantly affect the quality of care received. Cost sharing in general had no adverse impact on participant health, but there were exceptions: free care led to improvements in hypertension, dental health, vision, and selected serious symptoms. These improvements were concentrated among the sickest and poorest patients."

Here are other research papers that pertain to the impact on utilization of increasing office visit cost shares.

In "Does Patient Cost Sharing Matter? Its Impact on Recommended Versus Controversial Cancer Screening Services"[4], the researchers conclude that increasing cost shares will cause reduced utilization for some services, but "may not have an adverse effect on more recommended services", where "recommended" means recommended by a physician (i.e. more urgent services). That is, patients will not avoid "necessary" care, and overall, there will be a reduction in utilization (and costs) from higher cost shares.

In "Effects of Cost-Sharing on Care Seeking and Health Status: Results from the Medical Outcomes Study"[5], researchers concluded that cost sharing reduced utilization, even in the chronically ill population. "In comparison with a no-copay group, the low- and high-copay groups were less likely to have sought care for minor symptoms, but only the high-copay group had a lower rate of seeking care for serious symptoms." The study defined the high-copay group as patients that had to pay 50 percent or more of the cost of outpatient visits. Since both current and recommended CalPERS copays are significantly less than 50 percent of the cost, this study suggests that CalPERS chronic patients would not seek less care for serious symptoms.

With respect to the impact of cost sharing on health status, the study concluded, "We found no association between cost sharing and health status at baseline or follow-up." As with most papers on this subject, the study listed a variety of complicating factors in

3 RAND Corporation, "The Health Insurance Experiment; A Classic RAND Study speaks to the Current Health Care Reform Debate", 2006.
4 S. Liang, K. Phillips, S. Tye, J. Haas, J. Sakowski, American Journal of Managed Care, v. 10, n. 2, February 2004
5 M. Wong, R. Andersen, C. Sherbourne, R. Hays and M. Shapiro, *American Journal of Public Health*, v. 91, n. 11, November 2001, 1889-94

drawing statistically sound conclusions, and suggested that health plans should monitor the chronic population to make sure they do not avoid necessary care.

To summarize the academic literature, while there is evidence that increases in co-payments for physician services lead to modest reductions in utilization, there is no significant evidence of demonstrated, statistically valid negative health outcomes.

Absent conclusive academic literature, health plans turn to industry research when making pricing and plan design decisions. The Milliman Health Cost Guidelines is the leading healthcare actuarial research tool in the U.S. Most of the largest health plans in the U.S. purchase the Guidelines, including most if not all of the plans that contract with CalPERS. The Guidelines do not suggest that increases in co-payments of this magnitude have an adverse affect on other health care costs or health status.

In summary, we believe the moderate HMO office visit co-payment increases recommended in this report, from $10 to $15, would not have an adverse affect on member health status or long-term health costs.

2. Waive co-payments on Office Visits for Preventive Care.

The literature is generally supportive of this popular idea, although the cost effectiveness of waiving preventive care co-payments is difficult to demonstrate or quantify.

The RAND HIE found that providing free care for the "sickest and poorest patients" with hypertension "and selected serious symptoms" led to improvement in the health of patients. Presumably, this could lead to lower costs, but RAND did not determine if costs improved because of such "zero co-payment" care.

The paper "The Direct and Indirect Effects of Cost-Sharing on the Use of Preventive Services"[6] concluded that eliminating cost sharing for primary care and preventive services may increase preventive services utilization and improve patients' health status. Cost sharing has lower relative impacts on non-preventive services.

The paper "Effects of a Cost-Sharing Exemption on the Use of Preventive Services at One Large Employer."[7] reviews Alcoa's 2004 decision to eliminate cost shares on

6 G. Solanki and H. Schauffler, Health Services Research, v. 34, n. 6, June 2000
7 Busch, C. Barry, S. Vegso, J. Sindelar and M. Cullen, Health Affairs, v. 25, n. 6, June 2006, 1529-1536

preventive services, while raising cost shares on other outpatient services. The researchers conclude that Alcoa was able to "maintain rates of preventive service use", and that the dual cost share schedule "can preserve the use of critical health care services". In theory, this should lead to lower health care costs, but again there is not convincing quantitative evidence.

In summary, we are not aware of studies that clearly demonstrate that waiving co-payments on preventive services reduces total plan cost. However, waiving co-payments on preventive services will increase utilization of these services, which could have a positive effect on health status.

3. Raise Pharmacy Co-payments.

From the 1987 RAND Health Insurance Experiment until the present, research usually shows that increasing drug co-payments reduces drug utilization. This is also consistent with the Milliman Health Cost Guidelines, which reflects the experience of insurance carriers.

There is some evidence that modest increases in prescription drug co-payments will result in modest reductions in utilization, though there does not appear to be significant statistically valid evidence to indicate negative health outcomes. In addition, we are recommending no increase in co-payments for substitutable generic drugs, which may increase their utilization.

Absent conclusive academic literature, health plans turn to industry research when making pricing and plan design decisions. The Milliman Health Cost Guidelines is the leading research tool in the U.S. Most of the largest health plans in the U.S. purchase the Guidelines, including most if not all of the plans that contract with CalPERS. The Guidelines do not suggest that increases in prescription drug co-payments of this magnitude have an adverse affect on other health care costs.

In summary, we believe the moderate increases to pharmacy co-payments recommended in this report will not have an adverse impact on health status or long-term costs.

4. Raise Emergency Care Co-payments.

Research that pertains to co-payments for emergency care generally conclude that raising emergency care co-payments will reduce its utilization, without adversely affecting patients' health status.

The study, "Care-Seeking Behavior in Response to Emergency Department Copayments"[8] concludes that co-payments cause patients to avoid emergency care, but "rarely" avoid care completely as opposed to seeking care in another setting.

In "Cost-Sharing for Emergency Care and Unfavorable Clinical Events: Findings from the Safety and Financial Ramifications of ED Co-payments"[9] the researchers conclude that the avoidance of emergency care use due to co-payment increases does not increase the "rate of unfavorable clinical events".

In summary, we believe the moderate emergency room co-payment increases recommended in this report will not have an adverse impact on health status or long-term costs. We note that these co-payments are waived if the patient is admitted to the hospital, and that the proposed low co-payments for urgent care may provide the member with a lower-cost option for urgent but not emergent services.

5. Implement Hospital Inpatient Co-payments.

Research is sparse on this benefit design feature. This could be because the introduction of separate HMO cost shares for hospital inpatient is a relatively recent phenomenon.

The academic evidence indicates that demand for hospital services is very resistant to changes in co-payments. Hospital co-payment increases may reduce utilization somewhat, but not much. There is no demonstrable data to suggest that there would be significant adverse impacts on health outcomes.

The Milliman Health Cost Guidelines, which reflect the experience of health insurers, suggests that modest inpatient co-payments, such as $100 to $300 per admission, will not cause utilization for inpatient hospital services to decrease.

8 M Reed et al, Medical Care, August 2005
9 J.Hsu, et. al., HSR: Health Services Research, 2006

Attachment 6
List of Co-Payment Options Considered; Basic HMO and Basic PPO

As a result of several discussions with CalPERS staff, Milliman reviewed a wide variety of potential co-payment changes for the Basic HMO and Basic PPO plans. Milliman and CalPERS considered significant options listed below. Milliman performed a complete analysis only for the options that appeared to meet CalPERS' objectives based on a preliminary analysis.

Basic HMO

1. Introduce Hospital Deductible of $100 or $250 per Admission, with an Annual Maximum IP Co-payment of $300 or $500.
2. Change Office Visit Co-payment from $10 to $15, $20 or $25.
3. Eliminate Co-payment on Office Visits for Preventive Care.
4. Introduce $100 Pharmacy deductible.
5. Change Pharmacy Co-payments (various alternatives).
6. Raise Radiology / Lab Co-payment from zero to $10, $15, or $20 (per visit).
7. Raise Emergency Care Co-payment from $50 to $75 or $100.
8. Raise Urgent Care Co-payment to $30 (or more).
9. Raise Ambulance Co-payment from zero to $25 or $50.
10. Raise Outpatient Surgery Co-payment from $0/$10 to $50, $75, or $100.
11. Standardize Out-of-pocket Maximum to one of these:
    a) No limit;
    b) $2500 Individual, $5000 Family;
    c) $2000 Individual, $4000 Family;
    d) $1500 Individual, $3000 Family;
    e) $1000 Individual, $2000 Family.
    f) These limits exclude pharmacy and hospital inpatient.

Basic PPO

1. Increase PPO Deductible from $500/$1000 to $1000/$2000.
2. Change PPO Hospital Deductible: Introduce $100 or $250 per admit in PERS Choice; Increase Hospital Deductible from $250 to $500 in PERSCare.
3. Change PPO Office Visit Co-payment from $20 to $25 or $30.
4. Introduce $100 Pharmacy Deductible.
5. Change Pharmacy Co-payments (various alternatives).
6. Raise Emergency Care Co-payment from $50 to $75 or $100.

7. Change Urgent Care Co-payment to match Office Visit co-payment. This change applies only if the O.V. co-payment is changed.
8. Increase general PPO in-network Coinsurance: PERS Choice from 20 percent to 25 percent or 30 percent; PERSCare from 10 percent to 15 percent or 20 percent.
9. Increase PERS Choice Out-of-pocket Maximums, from $3000/$6000 to one of the following: $3500/$7000 or $4000/$8000.
10. Increase PERSCare Out-of-pocket Maximums: From $2000/$4000 to one of the following: $2500/$5000 or $3000/$6000.
11. Introduce Hospital Out-of-pocket Maximums: PERS Choice $1500/$3000 PERSCare $1000/$2000.